

1 Radiocarbon dates on the Crossrail Pudding Mill Lane fishweir (XSK10)

1.1 Introduction

Samples were sent to Queens University Belfast for radiocarbon dating (Table 1). One sample from each of six structures was dated (structures 28, 31, 32, 64, 65 and 98) as dendrochronology samples were assessed and deemed unfeasible (Ian Tyers pers comm).

1.2 Results and discussion

The results were calibrated using OxCal 4.1.7 (Bronk Ramsey 2010, Bronk Ramsey 2009a, Reimer et al 2009) (Fig 1). As stratigraphic information on the relationship between the six structures was lacking, the results were calibrated as a 'phase': a coherent group of events which there is no information on the internal ordering.

Results range from AD 1262 (structure 64) to 1633 (structure 31). The group of structures with similar probability densities (27, 32, 65 and 31) shows two ranges: the first from the 1430s to the 1520s and the second from AD 1601 to 1616. Structures 64 and 98 appear to pre-date this cluster. Structure 98 cannot be said to precede the group (27, 32, 65 and 31) with confidence as there is some overlap in date with the first range. Structure 64 does seem to precede the others by more than 100 years. In summary, although a clear chronological sequence through each structure cannot be discerned, structure 64 does appear to be the earliest (dating to the late 13th century), followed by structure 98 (early 15th century) and the remaining four structures (27, 32, 65 and 31) that group together tightly.

The Limmo boat, provisionally dated to the 13th-15th centuries (Damien Goodburn pers comm), is broadly contemporary with the wood from the fishweir structures. A wood sample from the boat could be sent for radiocarbon dating.

Structure number	Sample number	QUB Chrono lab ref	MOLA ref	Stake/rod number (where applicable)	Species	other information	pretreatment	Radiocarbon determination	Calander date 2 sigma (98.4% probability) (cal AD)
28	14	200149	XSK10_28_14		oak	mouldy	AAA	421±19 BP	1436-1483
32	26	200151	XSK10_32_26	rod 5	willow/poplar		AAA	401±20 BP	1441-1502 and 1507-1510 and 1602-1615
31	27	200150	XSK10_31_27	stake 1	willow/poplar	external 3-5 rings sampled	AAA	359±19 BP	1461-1527 and 1555-1633
65	28	200153	XSK10_65_28	rod 7	willow/poplar		AAA	397±20 BP	1443-1512 and 1601-1616
98	29	200154	XSK10_98_29	rod 2	willow/poplar	external 4 rings sampled	AAA	483±27 BP	1411-1448
64	20	200152	XSK10_64_20	-	ash		AAA	726±20 BP	1262-1290

Table 1 listing samples sent for radiocarbon dating and results of analysis

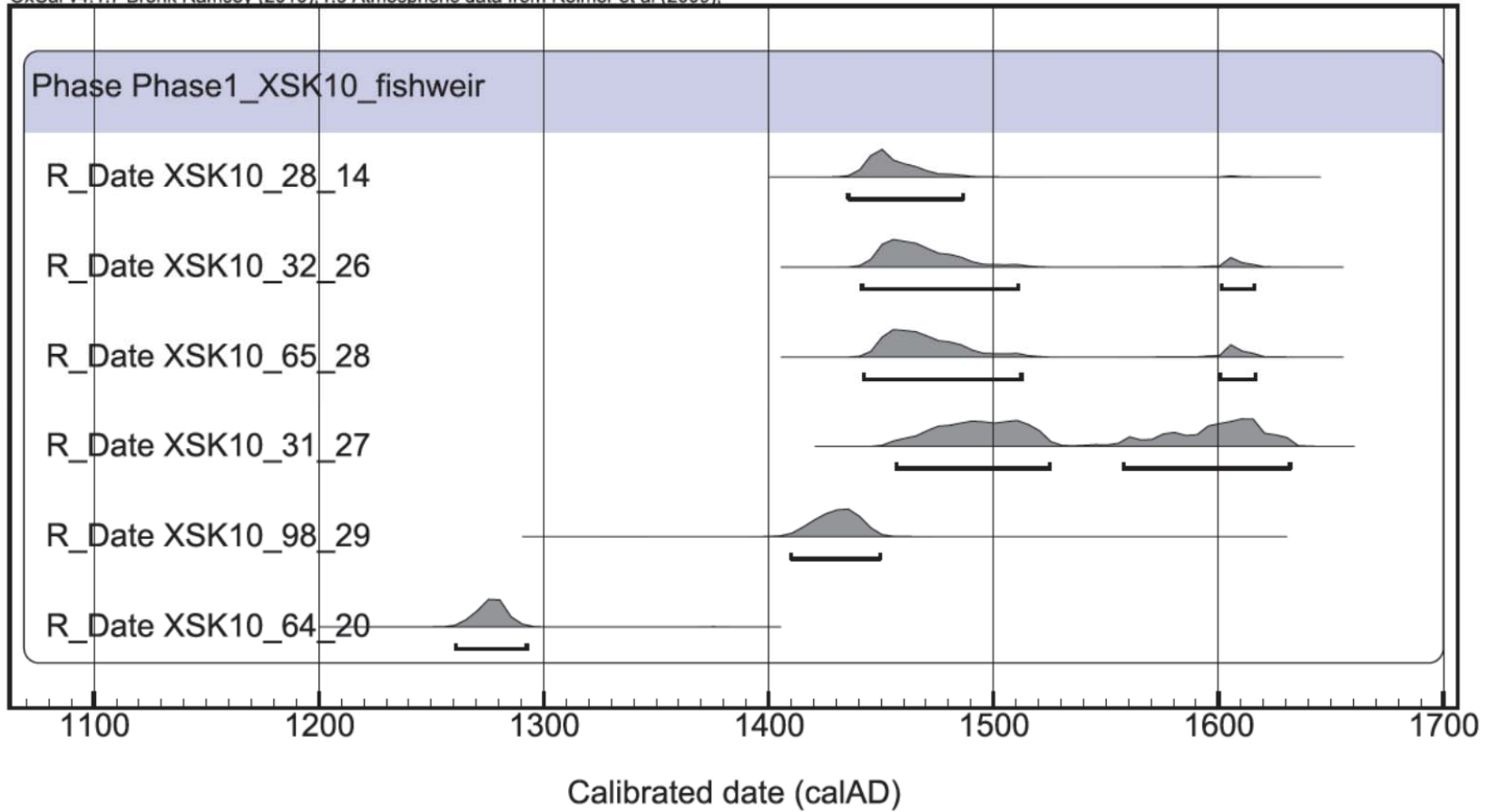


Fig 1 OxCal Multiple plot of the six radiocarbon dates on the Pudding Mill Lane fishweir

1.3 References

Bronk Ramsey, C 2009a Bayesian analysis of radiocarbon dates. *Radiocarbon*, 51(1), 337-360

Bronk Ramsey, C 2010 OxCal programme v4

Reimer, PJ, Baillie, MGL, Bard, E, Bayliss, A, Beck, JW, Blackwell, PG, Bronk Ramsey, C, Buck, CE, Burr, GS, Edwards, RL, Friedrich, M, Grootes, PM, Guilderson, TP, Hajdas, I, Heaton, TJ, Hogg, AG, Hughen, KA, Kaiser, B, Kromer, B, McCormac, G, Manning, S, Reimer, RW, Richards, DA, Southon, JR, Talamo, S, Turney, CSM, van der Plicht, J and Weyhenmeyer, CE 2009. IntCal09 and Marine09 radiocarbon age calibration curves, 0 - 50,000 years cal BP *Radiocarbon* 51, 1111-1150